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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/648,110

08/26/2003

Atsushi Horiguchi

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7590

07/13/2005

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EXAMINER

ELLIS, SUEZU Y

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,110

Applicant(s)

HORIGUCHI ET AL.

Examiner

Suezu Ellis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the phrase "connecting input terminals thereof to which one ends of the feedback resistors are connected to an output terminal" is confusing. Please reword. For examining purposes, claim language will be interpreted as connecting one end of the feedback resistor to an input terminal and connecting the other end to an output terminal.

With respect to claim 3, claim language seems confusing an poorly written. For example, in lines 10-13, the phrase "in the same manner as the analog switch selects in the case where the analog selects the input terminal..." is confusing. Further, the second portion of the claim (lines 12-17) seems redundant to the description of the analog switch described in lines 4-10. Is the second portion of the claim comparing function of the second analog switch to

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the first analog switch? If so, please clarify. Please rewrite claim. For examining purposes, claim language will be interpreted as the photodetector further comprising a second analog switch is used for selecting ends of the feedback resistors to externally output an output voltage.

Claims not specifically addressed are also indefinite due to their dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (US 4,673,807). Hereinafter, Kobayashi et al. will be referred to as Kobayashi.

With respect to claim 1, Kobayashi discloses in Fig. 1, an operational amplifier (2), a photodiode (1) connected to an inverting terminal of the operational amplifier, a plurality of feedback resistors having different resistance values (R, 9R, 90R, 900R), an analog switch (SW1) for selectively connecting one end of the feedback resistors to an input terminal and for connecting the other end to an output terminal of the operational amplifier, with the exception of the feedback resistor with the maximum resistance value (900R), wherein the

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feedback resistor with the maximum resistance value is connected both the inverting input terminal and the outputting terminal of the operational amplifier without a switch.

With respect to claim 2, Fig. 1 further illustrates the plurality of feedback resistors (R, 9R, 90R, 900R) are connected in series between the input and output terminals of the operational amplifier.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of the prior art disclosed by the applicant.

With respect to claim 3, Kobayashi discloses the limitations of claims 1 and 2, however fails to expressly disclose another analog switch which selects the output terminal of the operational amplifier to externally output an output voltage for the feedback resistors, with the exception of the resistor with the maximum resistance (900R). Kobayashi and the applicant are directed to a similar field of endeavor of circuits. The applicant discloses in Fig. 5 it is well known in the art to include a second analog switch to select the ends of the

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feedback resistors for externally outputting an output voltage. It would have been obvious to a person of ordinary skill in the art in order to eliminate any error caused by an ON resistance of the analog switch.

Allowable Subject Matter

Claims 4 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

With respect to claim 4, prior art fails to teach or reasonably suggest, singly or in combination, the inclusion of an additional feedback resistor, which has a resistance greater than the feedback resistor with the maximum resistance value and is connected to the output terminal of the operational amplifier at one end and connected to the inverting input terminal of the operational amplifier at the other end, and further includes a mechanical relay for connecting/disconnecting the other ends of the other feedback resistors to and from the inverting input terminal of the operational amplifier.

Claim 5 is objected to as being allowable if rewritten due to its dependency on claim 4.

Information/Telephone Information

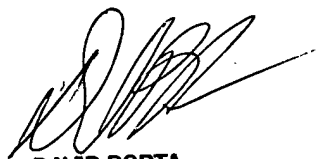
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suez Ellis whose telephone number is 571-

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272-2868. The examiner can normally be reached on 8:30am-7pm (Monday-Thursday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAVID PORTA
SUPERVISORY PATENT EXAMINER
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